IN THE CLAIMS

Claims 1-21, 33 and 35-37 were previously cancelled. Claim 22 is currently amended. Claims 23- 32 and 34 are carried forward, all as follows.

Claims 1-21 (Cancelled)

22. (Currently Amended) A product folding apparatus comprising:

a transport track ~~adapted~~ to transport a product and having a transport track drive mechanism ~~and being usable to move~~, said transport track drive mechanism moving the product along said transport track in a product transport direction;

a longitudinal folding apparatus connected to said transport track ~~and adapted~~ to receive the product from said transport track and to fold said product longitudinally in said product transport direction;

a vertically reciprocable folding blade positioned in said longitudinal folding apparatus and being aligned in said product transport direction;

a folding table supporting said folding blade for said vertically reciprocable movement of said folding blade with respect to said folding table;

a folding blade drive motor to vertically reciprocate said folding blade with respect to said folding table through a folding blade drive mechanism, said folding blade drive motor being controlled independently of said transport track drive mechanism;

a folding blade drive motor control device to provide said independent control of said folding blade drive motor to vertically reciprocate said folding blade at a product folding time; and

an optical [[a]] product sensor located ~~arranged~~ adjacent said folding table and before said folding blade in said product transport direction, said optical product sensor

determining a product phase relation of said product at said product sensor location, ~~said product sensor controlling said folding blade drive motor, through~~ said folding blade drive motor control device controlling said folding blade drive motor, in response to said determined product phase relation at said product sensor location, to synchronize said vertical reciprocation of said folding blade , at [[with]] said product folding time, with respect ~~in response~~ to said determined product phase relation of said product to be folded, as said product phase relation is determined by said optical product sensor, to longitudinally fold said product in said product transport direction.

23. (Previously Presented) The product folding apparatus of claim 22 further including a folding blade support lever pivotably attached to said folding table and supporting said folding blade for said vertically reciprocable movement with respect to said folding table.

24. (Previously Presented) The product folding apparatus of claim 22 further including a movable buffer in said longitudinal folding apparatus and usable to slow down a product entering said longitudinal folding apparatus along a product travel path at a product entry speed.

25. (Previously Presented) The product folding apparatus of claim 24 further including means moving said buffer along said product travel path at a buffer speed less than said product entry speed.

26. (Previously Presented) The product folding apparatus of claim 24 further including a buffer drive mechanism which is independent of said transport drive mechanism.

27. (Previously Presented) The product folding apparatus of claim 26 wherein said product sensor controls said buffer drive mechanism.

28. (Previously Presented) The product folding apparatus of claim 24 wherein said movable buffer is an endless belt and further including a rotatable body supporting said endless belt, said endless belt extending along said product travel path.

29. (Previously Presented) The product folding apparatus of claim 24 wherein said movable buffer is a moving endless belt having a section extending along said product travel path.

30. (Previously Presented) The product folding apparatus of claim 22 further including a shunt arranged before, in a direction of product travel, said longitudinal folding apparatus and usable to selectively supply products to said longitudinal folding apparatus.

31. (Previously Presented) The product folding apparatus of claim 30 further including a shunt drive mechanism and a shunt drive mechanism control device and further including a shunt sensor located before said shunt and usable to actuate said shunt drive mechanism control device.

32. (Previously Presented) The product folding apparatus of claim 31 wherein said shunt drive mechanism control device synchronizes a shunt operating position with a detected product phase relationship using said shunt sensor.

33. (Cancelled)

34. (Previously Presented) The product folding apparatus of claim 24 wherein said product sensor is usable to synchronize said movement of said buffer using said product phase relation.

Claims 35-37 (Cancelled)